GEOGRAPHIC SCHOOL BULLETINS

THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

VOL. XXXV, NO. 17, FEBRUARY 4, 1957 . . . *To Know This World, Its Life*

► Utah, the "Promised Land"

► Mr. Bear Sleeps Out the Winter

► Bananas for America's Tables

► Syria Faces Troubled Times

► Madeira, Pearl of the Atlantic

**SAND-WHIPPED BAZAAR at Aleppo resounds to the haggling of buyers. Industries thrive among the mosques of Syria's largest city, making it the "Near East's Chicago"**
193
MAYNARD OWEN WILLIAMS

cut. Spreading distances were enough to hold even the bravest pioneers at bay.

Unfriendly to the new settlers as Nature itself, the nomadic Ute tribes, "dwellers of the high mountains," spelled constant trouble.

But the Mormons proved unrelenting as the land. They made corn grow anyway. Pioneers of irrigation, they diverted mountain streams to turn desert into farmland. Dams, schools, temples, sawmills, and shoe factories sprouted around Salt Lake and across Utah. Roads linked well-ordered communities. Mormons gradually made peace with the Utes. As years passed, the wild territory of Indians, hunters, and trappers like Jim Bridger became known as Mormon country.

HOWELL WALKER, NATIONAL GEOGRAPHIC STAFF

**SEA GULL MONUMENT near Salt Lake City's Mormon Temple reminds Utahans of the year gulls arrived in the nick of time to save first Mormon crops from cricket plague**

In 1849, back in Washington, D. C., Congress considered a petition for admission to the Union of a state called Deseret. The name derived from a Book of Mormon word meaning "honeybee".

The area outlined was bigger than Texas and encompassed most of present-day Arizona and Nevada as well as bites of California, Oregon, Wyoming, Colorado, and New Mexico.

Congress refused. Finally, in 1896, a state called Utah was admitted. 45th to enter, Utah ranks 10th in size—larger than North and South Carolina combined.

Today Utah's population grows. Rich in minerals, the Beehive State is one of America's leaders in output of copper, gold, and silver. A few years ago, discoveries of uranium drew hordes of prospectors to southeast Utah, an area now recognized as an important United States source of the precious ore.

Farming remains the mainstay of Utah's economy, though only about 12 per cent of the state is agricultural land. Farming has always been almost entirely dependent on irrigation. Nonetheless where river waters have irrigated thousands of acres of desert, excellent soil produces sugar beets, vegetables, oats, barley, and fruit. Sheep graze in the mountains.

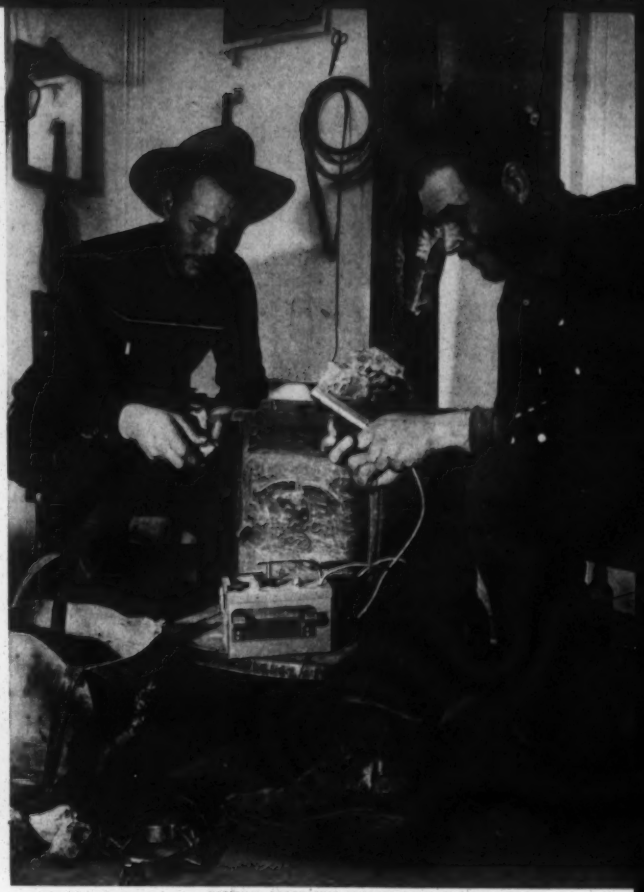
Vast areas of Utah remain untamed despite Mormon resourcefulness and jeep-riding prospectors. Spectacular land formations are wonders that today draw visitors from every part of the nation. The government administers two national parks—Zion and Bryce Canyon, nine national monuments, and many wildlife refuges in Utah. Canyons like Bryce, with its pink and white columns



UMI

# Utah

## Promised Land for Early Mormons and Modern Uranium Hunters



NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

DOWN around Moab, a cowboy is hardly worthy of his high-heeled boots if he can't handle a Geiger counter as well as a branding iron. These two have picked up a few ore samples out on the range and they listen critically for the clicking that may mean wealth.

For this is Utah, where uranium lures the adventuresome the way Brigham Young did, one hundred and ten years ago.

Jim Bridger was trapping animals in Ute country long before the state of Utah was born. He was a lean, eagle-eyed scout who knew the country better than any other white man. "Salt Lake," he told Brigham Young, "why nothin'll grow around there but crickets. I'll give you a thousand dollars for the first ear of corn you raise."

That was in July, 1847. Brigham Young had just led 147 Mormon pioneers into the valley of the Great Salt Lake. Driven out of the east, these people sought a country where they could live in peace according to the Book of Mormon, where they could set up their Zion according to its radical doctrines. In years that followed, Mormons were to pour westward in thousands. Some were newly arrived from Europe. Some, too poor to buy a prairie schooner, came 1100 miles on foot. They pulled handcarts behind them loaded with their supplies and their sick.

Jim Bridger, and other trappers of the day, knew the territory as something so untamable that even the Indians didn't really want it—a great plateau crossed by mountain ridges; towering peaks dropping to salt desert wastelands baked by relentless sun. The intense blue sky was rainless 300 days a year. Grotesque shapes of wind- and rain-carved rock formations loomed from floors of tremendous canyons. Rivers fought violent wars with walls of the gorges they

**GEOGRAPHIC SCHOOL BULLETINS,** copyright © 1957 by the National Geographic Society, Melville Bell Grosvenor, President. Published weekly during the school year by the School Service Division, Ralph Gray, Chief. Entered as second class matter, Post Office, Washington, D. C. International copyright secured. All rights reserved. Rates: United States, 75¢ for 30 issues (one school year); Canada, $1.00; elsewhere, $1.25. United States only, three years (90 issues) for $2.00. The National Geographic Society is a nonprofit educational and scientific society established for the increase and diffusion of geographic knowledge.

# Out For the Winter

PLEASE do not disturb. The occupant of this apartment is apt to be crotchety when aroused during winter months.

Bears sleep for considerable periods while snow banks up around their lairs. Cubs are born during this period—tiny, helpless babies weighing about half a pound. But otherwise it is a normal sort of sleep, with many twitches and stretches and deep sighs and changes of position. Frequently Bruin wakes up and pokes his head outdoors, blinking ill-humoredly at the stark, white world. He may forage a little before going back to sleep.

Bears are not true hibernators because their pulse rate remains normal. A number of smaller burrowing animals see the winter through by lapsing into a stupefying slumber, their hearts barely beating.

Take the "ground hog," for example, whose "day", last Saturday, inspired comment in the press. This woodchuck fattens in late summer and tucks some green fodder into his hole as an iron ration. Then, as frost nips the air, he seals off his doorway and curls up in a drowsy ball deep underground.

The 'chuck's pulse rate drops until the heart is barely beating. Body temperature sags almost to the level of the outside air. The flame of life dwindles to an imperceptible spark. Outwardly, the creature seems dead.

Woodchucks, hedgehogs, bats, badgers, and ground squirrels in cold climates sleep thus with varying intensity. One hedgehog was in such a state of suspended animation that he survived an experimental dunking of more than 20 minutes. Many kinds of ground squirrels hibernate soundly for a week or two, then rise to forage on a sunny day before doping off again.

In warmish climates a woodchuck might wake up in February. In northern states, it's pretty doubtful. February 2 is apt to be just another winter day spent in happy oblivion, no matter what the ground-hog day legend says about the woodchuck looking for his shadow.

Hibernation serves the purpose of tiding vulnerable animals over the lean months of winter. All changes in body functions that allow true hibernation still baffle scientists. One clue seems to be that hibernators have extremely irritable hearts, quick to throb at the slightest stimulus. Such a sensitive organ is able to keep ticking even when body heat drops far below normal.

Bears are much easier for men to understand. They gorge themselves on food, grow lazy and bleary-eyed as fall shortens the days, and probably become disgusted at the first miserable winter day. So they simply crawl into a warm den and go to sleep.

Who can blame them?—E.P.



UMI

of sandstone sculptured by rain, frost, and wind, hold mountain lion and fox, coyote, bobcat, and mule deer. Fantastic rock formations have inspired names like Mexican Hat, Organ Rock, Rainbow Bridge.

Utah's capital, Salt Lake City, was largely laid out by Brigham Young. Many of the same broad streets he designed still exist. They are 132 feet wide, room enough for four traffic lanes with angle parking on boths sides. Snow-capped mountain ranges loom above a modern, beautiful city—4,300 feet above sea level. Near the city, Utah's famed Great Salt Lake swells and shrinks in size depending on rainfall and use of its waters for irrigation. Shrunken

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

**WORLD'S LARGEST open-cut copper mine carves away a mountain at Bingham Canyon**

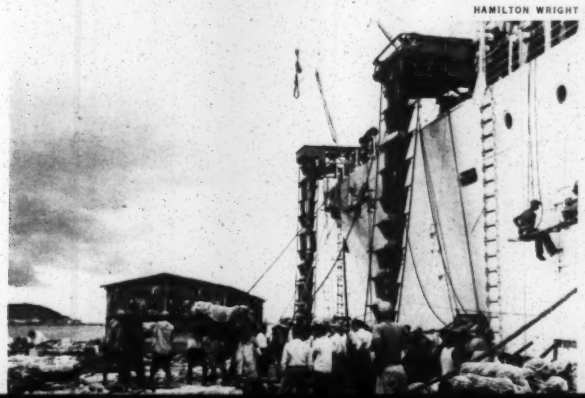
remnant of an inland sea called Lake Bonneville, the lake is 3½ times as salty as the sea. You can float with ease, but fish in vain. Salt Lake supports only small organisms like brine shrimp.

The area once covered by Lake Bonneville forms the Great Basin. Parts of it, under irrigation, bring forth rich harvests. Much of Utah's population clings to the green acres that for Jim Bridger would only grow crickets. Jim Bridger owes Brigham Young a thousand dollars.—J.A.

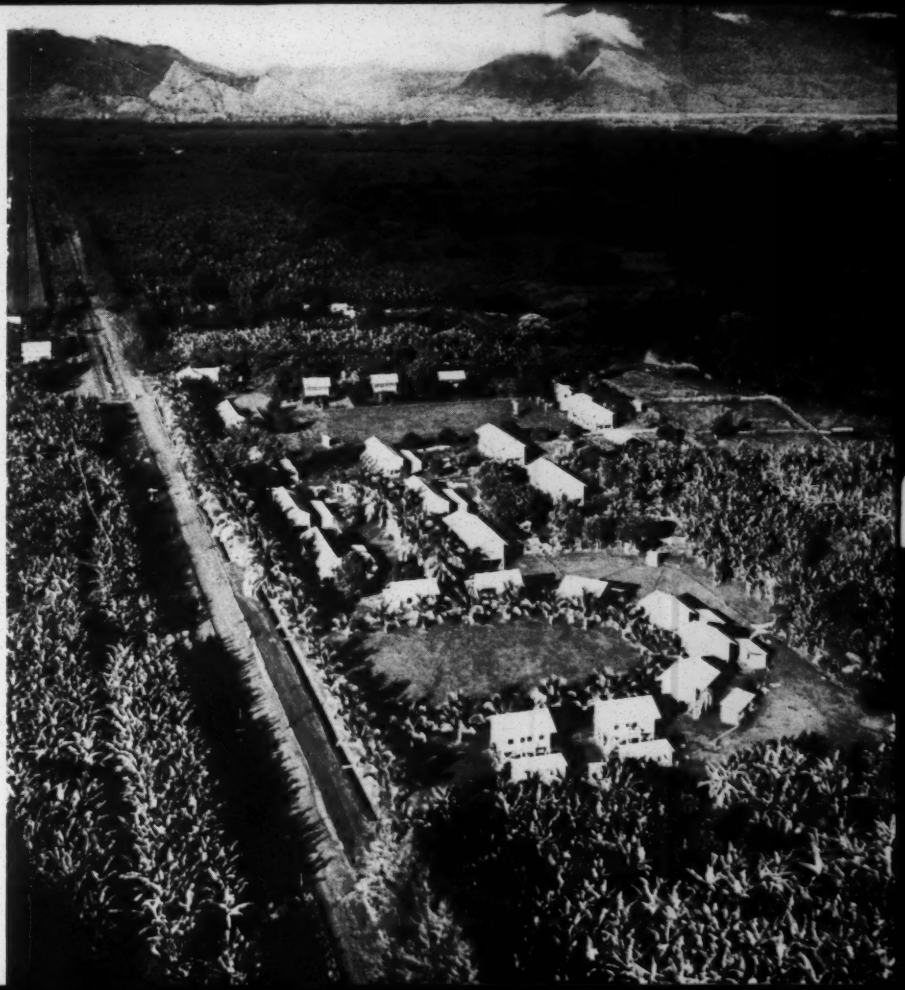
**NATIONAL GEOGRAPHIC REFERENCES:** ***Map***—Southwestern United States (paper, 50¢; fabric, $1.00). ***Magazine***—September, 1955, "Escalante: Utah's River of Arches" (75¢); January, 1954, "Amid the Mighty Walls of Zion" (75¢); August, 1947, "Desert River Through Navajo Land" and "Utah's Arches of Stone" (75¢).

UNITED FRUIT COMPANY (ABOVE AND RIGHT)

*A protective jacket, above, guards Guatemalan bananas from bruising. Conveyor belts load fruit at Guayaquil, Ecuador, below. At right, workers' homes rise among tall leaves of a plantation in Honduras*



HAMILTON WRIGHT



UNITED FRUIT COMPANY

*Banana bud clings to stem as Costa Rica fruit matures*

UNITED FRUIT COMPANY

*Men in pairs harvest green bananas. Wielding a machete, one Costa Rican worker slashes off a heavy stem. It thumps down onto his companion's shoulder*

HAMILTON WRIGHT

*Bananas leave an Ecuador plantation on a narrow gauge diesel railroad. Ahead lies inspection and a dip in antiseptic before shipment to world markets*

# Careful Handling Brings Banana From "Tree" To Table

BANANA boat a'comin'! But before the sleek refrigerated ship docks, before specially cooled freight cars speed ripening fruit cargo across the nations, a story of toil and patience unrolls under blistering hot sun. Banana plantations, such as the one on page 199, are hacked from jungles of Caribbean, Central or South American countries. Major producers for the United States are Jamaica, Mexico, and Honduras. Bananas come in all sizes, flavors, and varieties. Yours is probably a *Gros Michel*, or "Big Mike," large, hardy, and commercially popular. Banana plants—they are not trees—grow rapidly, reach maturity in 14 months. Slowly buds open, droop downward. Flower clusters produce "hands" of bananas with perhaps twenty "fingers." Stems are harvested still green. Ripening on the plant robs flavor, invites insects. When bananas are ready, harvesters cut stems weighing from 60 to 90 pounds, run them by train to main railway lines. Swiftly, then, to shipping centers. Rough handling, delay, can undo careful work of long hot months. The "Big Mike" you slice for cereal today may have hung from a green plant in Honduras only two weeks ago.—J.A.

There, the university's 2,000 students may choose among the arts, sciences, engineering, education, and medicine. New wide streets and modern buildings contrast with older, narrower, crooked thoroughfares shadowed by the minarets of Islamic mosques. Old skills persist: Damascus damask weaving, brass products, mosaics, brocades, and Arabesque decorations rank with the world's finest. Beyond the hill-rimmed city in its plain, watered by the Barada and A'waj Rivers, gardens and orchards bloom as in old Near Eastern tales.

Legend says that the city was founded by Noah's grandson a few years after

DAVID S. BOYER, NATIONAL GEOGRAPHIC STAFF

**BUSINESS IN DAMASCUS centers around Merjeh Square, heart of the capital city**

the great Biblical flood. Its site is so fertile that the prophet Mohammed declined—say the accounts—to enter its gates. "A man," said he, "may not enter paradise twice, and I prefer to await the immortal paradise."

Almost due north of Damascus and 80 miles from the Mediterranean, time-worn Aleppo boasts industries and the nickname "Chicago of the Middle East." The industrial hum sounds where caravans, thousands of years ago, beat a path between Asia and Europe. An Arab citadel and medieval bazaars are monuments to the past. Until new boundaries were drawn after World War I, the city was part of Turkey. Then all Syria came under French mandate. During World War II the Syrians considered the mandate ended. In 1944, both the United States and Soviet Russia recognized independent Syria.—S.H.



UMI

# *Syria*

## THE WORLD WATCHES A NEAR EASTERN HOT SPOT

JOHN SCOFIELD, NATIONAL GEOGRAPHIC STAFF

WILL it happen again?

The eyes of the Arab, at the right, seem to pose the question now pondered by 4,000,000 inhabitants of Syria. Subjugation has come many times down the centuries. Syrian fathers have told their sons how ancient Egypt once ruled their homeland. Then came the Babylonians, Persians, Greeks, Romans, and Mongol hordes. Now Russia, wooed by Syria's pro-communist regime, threatens new foreign inroads.

Syria wedges in between Turkey and Iraq, bordering Israel and Jordan on the south, and Lebanon on the southwest. All are tinderbox names in the Near East where age-old racial and tribal hatreds already are inflamed. For Russia, Syria presents an easy steppingstone into the tense Near East, its oil deposits, and the strategic Suez Canal. It is an avenue for communist expansion—westward. Soviet-built planes and other war materiel have flowed to Syria's enlarging army. The United States has promised intervention against any Near East aggression.

Thus tension hovers over one of earth's most ancient lands, which once included what is now Lebanon, and Palestine. Back in dim time, its threading caravan trails bore religious thinkers, warriors, and traders whose ideas came to flower in Western civilization. Those routes were abandoned after the discovery of an all-sea passage to India and China. But they survive today in the form of an oil pipeline and roads which in normal times move some of the Near East wealth to the Mediterranean.

In their bottled-up location, Syria's predominantly Arab peoples watch, wait, and lean, as usual, on agriculture for major support. Wheat, corn, hemp, and barley are mainstays. Whole landscapes are softened by olive trees. Silkworms feed on white mulberry trees, and fruit of many kinds grows in irrigated orchards. Water is a problem; but where the country borders the eastern Mediterranean there is adequate rainfall. Animals thrive: thousands of oxen, camels, goats, and donkeys plod about farms. Mechanization is increasing. But in many areas, the lumbering ox still draws a wooden plow.

Syria, indeed, balances the old and new on both shoulders. Damascus (below) the ancient capital, has been the center of Near East trade for milleniums.

Porto Santo, lower and lonelier, and the barren Desertas. But Madeira and Funchal, its capital, beckon visitors. Arriving, they throw coins overboard for lithe boys to dive for. Boatloads of busying merchants hawk jewelry, canaries, feather flowers, monkeys, wickerware, and walking sticks. Of all, the canes seem most sensible. Even Madeiran boys need them on the steep streets.

Impressions flood the newcomers. Pink, buff, and cream-colored houses harmonize in riots of colorings everywhere. Funchal's villa-strewn suburbs creep pleasantly up mountainsides. The craft-filled harbor itself inspires dreams of history. Here, Columbus came to think about someday sailing farther west. On Porto Santo he had lived around 1479 with his bride. Captain James Cook, Pacific explorer, swung into Funchal harbor once and bombarded its guardian fort to avenge a supposed insult. Later he planted rare trees to add to the island's beauty.

Crowds now jam this 32-mile-long island reared from the sea by long-extinct volcanoes. There are about 761 persons to each of its 308 square miles, one of mankind's densest groups. Nearly a third of the population lives in Funchal.

Dairy products and money sent from relatives abroad boost Madeiran incomes. These fields of activity occupy nearly all the people:

1. Embroidery. Over 90 per cent of the women, including very young girls, embroider tablecloths, sheets, pillowcases, handkerchiefs, bed jackets, towels, and blouses.

2. Wine. Centuries ago, the Malavesi vine was imported from Crete, and other varieties followed. Now Madeira's heavy and light, sweet and dry offerings are known wherever wines are sipped.

3. Fishing. With nets and lines, barefooted Madeirans provide a staple food.

4. Tourists. "The visitors are our most valuable crop," an old resident contends. For taxis, tourists choose among ox, mule, or gasoline power. Many ride



NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

*Camacha's town baker wears a knitted cap that spells Madeira*

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

# Madeira, Pearl Of The Atlantic

WHEN winter withers cold climes, Portugal's Madeira is a place to dream of. Famed embroiderers work in sun-enchanted doorways. Rare wines mellow. Terraced vineyards (above) flame like florists' windows with poinsettias, camellias, deep-magenta and brick-red bougainvilleas; and scarlet aloe clings to cliffs. A sapphire sea leaps at sheer coastal headlands. Mountains wear capes of velvety green and sometimes caps of snow, even in this land of lingering spring where January seems June.

"Madeira" in the language of its Portuguese settlers means wood. Delighted visitors, however, have called it "The Florescent," or "Pearl of the Atlantic." It rises dramatically from the sea off the coast of Morocco, north of the Canary Islands, southeast of the Azores. Near by cluster other islands of the Madeiras—

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

**THATCHED TO THE GROUND, a farm cottage sprouts from the soil among tall Madeiran plants. These peasant women, like their city sisters, spend their spare time embroidering**

the "Madeira sleigh," canopied "chariots" with sleighlike runners drawn by oxen over the smooth cobblestones. Many thrill on the "sleigh ride" that swoops 3,000 feet down a blistering slope on a cobbled Funchal lane. Tasty *espadas* (swords) are hooked from 4,000 feet deep. Other hooks take tuna and barracuda. Visitors sail four hours to Villa Baleira on Porto Santo for swimming. The less energetic stroll through groves of cherries, oranges, tangerines, mangoes, and apricots, or, for a feel of home, see movies. Adventurers can get their thrills walking along dizzying, perpendicular cliffs.

Portuguese love pyrotechnics. Their fireworks flash and glow above the sea and mountain amphitheater of Funchal each New Year's Eve. Lighted harbor ships wail their horns. And visitors forget there is such a thing as winter.—S.H.

See *National Geographic Map*—Atlantic Ocean (paper, 50¢; fabric, $1.00).



DAVID S. BOYER, NATIONAL GEOGRAPHIC STAFF

**NO, IT'S NOT A GUITAR, and he sings without a microphone. Otherwise this might be Elvis—serenading an admirer**